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# AGRICULTURAL NOTES

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## A COMPARISON OF JAVA UNKNOWN WITH UBA CANE.

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There is a type of sugar cane that came out of India, of which there are some fifteen varieties. These canes are of small diameter but stool readily and give a heavy tonnage, compared with the better known varieties. The special value for them in Porto Rico is due to the fact that they are immune to the mosaic disease. The yield of sugar is satisfactory, especially on the more undesirable soils. This type of cane is cultivated at a low cost because it grows so thick that grass and weeds are soon crowded out. On the other hand, the canes, being so small, are expensive to harvest but adapt themselves to a country where labor is plentiful and cheap. Of the three varieties of this cane that we have tried out in Porto Rico, namely the Uba, Cayanna and Zwinga, the first named has proven best and is now extensively planted in the island. Although the Uba is giving such good results, we must not relax our efforts to obtain a better cane, especially one of a higher type as regards sucrose, purity and economical to harvest.

At this Station, several years ago, we received a cane of this type from a foreign source, presumably from Java. In growing this, it showed certain evidences of being superior to the Uba. We entered this in our records as E. K. 28, having received some cuttings of that variety in the same mail from Java, but as it is entirely different we submitted some samples to the director of the Java Station for identification. So far we have not been able to determine where this cane came from. It is not E. K. 28 but closely approximates the Uba and, certainly, belongs to that group of Indian canes.

Being unable to identify this cane, we have called it Java unknown. The main differences from the Uba are: It has double buds, it germinates better, is more vigorous and has darker green leaves, not possessing the whitish discolorations found on other canes of this type which are sometimes mistaken for mosaic. Its main qualification, however, is the fact that it defoliates easily and this ease of stripping gives it a great advantage over the Uba cane. In a measurement of a number of stalks, the Java unknown had an average diameter of 2.10 centimeters and an average height of 8.17 feet. The Uba had an average diameter of 3.15 centimeters and an average height of 7.7 feet. In our experiments, growing the two, side by side, the Java unknown yielded a greater tonnage of cane and sugar per acre. The average weight of stools of the Java unknown was 91.77 pounds, for the Uba 81.18. The calculated tonnage per acre was Java unknown 55.52, Uba 49.12. These results were obtained on cane planted at a distance of 6x6 feet and 17 months old. Another point of superior-







ity of the Java unknown over the Uba is that the latter arrows freely when 10 up to 2 months old, depending on the time of the year, while the Java unknown does not arrow.

In a comparative analysis of these two canes, beginning January the 9th and lasting through a period of eleven weeks, extraction made on a Diamond grinding mill operated by horse power, the following averages were obtained:

	Brix	Sucrose	Purity	Extraction	Tons of cane per acre	Calculated tons of sugar per acre. #
Java unknown	18.38	14.45	78.60	55.61	55.52	5.334
Uba	17.75	14.55	82.36	57.79	49.12	5.019

(#) These calculations were based on an extraction of 76.79 for Uba and 74.61 for Java unknown. These are the approximate extractions that these canes are giving in larger mills. Java unknown is a little over 2 per cent lower in extraction than Uba.

These results indicate that Java unknown is a little lower in sucrose, purity, and extraction but the tonnage of cane and sugar per acre are much better than Uba. But the main factor is the ease in harvesting of the Java unknown and especially the stripping of the leaves. In making these analyses it was apparent that the sucrose content and purity of these canes were greatly influenced by rains. They were both lower when the samples were cut after rains and higher following periods of dry weather. This varied from 1 to 2-1/2 per cent in sucrose content and indicated that where weather conditions can be followed in harvesting, it is best to do so.

During a trip around the island it was observed that these types of cane are being planted too close. Fields planted 4x2 feet and even 4x1 feet were noticed. The sucrose content of cane planted too close is lower than that of wider distances due to the fact that the sun and air cannot get through and assist in maturing the canes. Also the canes become thinner when planted too close and correspondingly expensive to harvest.

From the results of our experience, we recommend planting these canes 5x5 or 6x5 feet. While the Uba cane is giving wonderful results in many plantations in Porto Rico, the Java unknown is recommended to take its place for the following reasons: Greater tonnage of cane and sugar per acre, more vigorous, darker green leaves, better stooler and non-arrowing habit, but above all because of the ease of stripping leaves which has been a great drawback with the Uba cane.

In supplanting Uba with Java unknown, however, the planter should remember that even better canes can be found and should be sought. We have at the Station now some that give promise of taking the place of these thin Indian type canes. The changing from the Uba to the Java unknown is a step upward but by no means the last step in finding a cane best adapted to conditions prevailing in Porto Rico.



